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CANADA
DEPARTMENT OF FORESTRY

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Forest Insect Laboratory
Box 490
Sault Ste. Marie, Ontario

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March 1, 1961.

Dr. R. W. Cowlin, Director,
Pacific Northwest Forest and Range
Experiment Station,
805 N E Sixth Ave.,
P. O. Box 4059,
Portland 8, Oregon, USA

Attention: V. M. Carolin, Jr.

Dear Sir:

RWC

Recently we have been rechecking various reports and papers describing populations of Spruce Budworm in the western United States. We are somewhat surprised to find in Special Report P2 (USDA) 1953 by V. M. Carolin and K. H. Wright (Studies of the biology and control of the spruce budworm in Oregon and Washington) a reference to the 'two-year life cycle that presumably is common at high altitudes' (page 20). We have been aware for some time of the occurrence, in the Rocky Mountain areas of British Columbia and Alberta, of a budworm population with a two-year cycle. Our records for the southern part of British Columbia are not complete but there is nothing to suggest that it occurs much south of Banff. However, habitats ecologically quite similar to that in which it is found must certainly occur farther south in British Columbia and probably also in the Northwestern United States. The absence of any reports of such a two-year cycle budworm from this region suggested that it does not occur there. Thus we found the mention of two-year cycle budworm in your earlier report quite interesting.

Because of our present interest in two-year cycle populations in Canada we would like to know your present ideas on the possibility that such populations occur also in the northwestern United States. If they

do occur, we would like to know where they have been found and in what other areas you suspect them to occur. Are they plentiful enough in any area to make it possible to collect them? We would also be interested in your comments on host trees on which two-year cycle populations are found.

In Canadian populations of two-year cycle budworm there appears to be only one phase - one year being a feeding year in which there are no adults and the next a flight year when all larvae complete their feeding, pupate, emerge and mate. Is there any indication of a similar phase separation in the populations in your area. In the populations we have studied the two-year cycle is genetically controlled since there is very little loss of the second diapause even in stocks reared in a controlled temperature and with long photoperiods. Weather conditions appear to help maintain a selective pressure against loss of two-year cycle.

I believe that previously you had correspondence with Dr. G. Stehr, with whom I am closely associated. We are both interested in spruce budworm, one- and two-year cycle types, and would appreciate any further information that you may be able to supply of their present status in Oregon and Washington.

Yours very truly,

George T. Harvey

George T. Harvey PhD.

GTH:DED